LRP-5 Protein, Human (HEK293, mFc)

Cat. No.:	HY-P77989
Synonyms:	LRP-5; LRP-7; LR3; BMND1; BMND1OPTA1; EVR1; EVR4; HBM; LR3VBCH2; LRP5; LRP7; OPPG; OPS; OPTA1; VBCH2
Species:	Human
Source:	HEK293
Accession:	O75197 (E644-Q1263)
Gene ID:	4041
Molecular Weight:	110-115 kDa

PROPERTIES

Biological Activity	Immobilized Human DKK1, His Tag at 5 μg/mL (100μl/well) on the plate. Dose response curve for Human LRP-5, mFc Tag with the EC_{50} of 0.11 μg/mL determined by ELISA.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	LRP-5 protein acts as a pivotal coreceptor, partnering with the frizzled family of seven-transmembrane spanning receptors to transduce signals initiated by Wnt proteins. This activation leads to the canonical Wnt signaling pathway, a critical regulator of cell fate determination and self-renewal during both embryonic development and adult tissue regeneration. LRP-5 is particularly implicated in the posterior patterning of the epiblast during gastrulation and plays a crucial role in bone development by regulating osteoblast proliferation and differentiation. Mechanistically, LRP-5 facilitates the formation of the signaling complex between Wnt ligands, frizzled receptors, and itself, leading to the recruitment of AXIN1. This stabilizes beta-catenin/CTNNB1 and activates TCF/LEF-mediated transcriptional programs. Moreover, LRP-5 serves as a coreceptor for non-Wnt proteins, such as norrin/NDP, with a demonstrated role in retinal vascular development. The interaction with various partners, including FZD8, AXIN1, DKK1, MESD, KREMEN2, CSNK1E, SOST, APCDD1, and CAPRIN2, highlights its intricate involvement in the regulation of diverse cellular processes.

Caution: Product has not been fully validated for medical applications. For research use only.

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